



U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 2

August 28, 2019

BY ELECTRONIC MAIL

Robert Law, Ph.D.
de maximis, inc.
186 Center Street, Suite 290
Clinton, New Jersey 08809

Re: Re: Diamond Alkali OU4 - Lower Passaic River Study Area– Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study (Agreement) CERCLA Docket No. 02-2007-2009

Dear Dr. Law:

The U.S. Environmental Protection Agency (EPA) reviewed the “*Diamond Alkali OU4, Evaluation of the CPG Current Conditions Addendum to the QAPP – Fish and Crab Tissue Collection for Chemical Analysis*” prepared by Windward Environmental, LLC (and others) on behalf of the Cooperating Parties Group (CPG) for the Lower Passaic River Study Area (LPRSA) Remedial Investigation (RI)/Feasibility Study (FS).

In accordance with Section X, Paragraph 44(d) of the Agreement, EPA has enclosed an evaluation of CPG’s “*draft QAPP Addendum*” with this letter. Please proceed with revisions consistent with the enclosed comment evaluations. Comments from the New Jersey Department of Environmental Protection have been incorporated. If there are any questions or clarifications needed on EPA’s enclosed comment evaluations, please contact me to discuss.

Sincerely,

A handwritten signature in dark ink, appearing to read "Diane Salkie".

Diane Salkie, Remedial Project Manager
Lower Passaic River Study Area RI/FS
Enclosure

Cc: Zizila, F. (EPA)
Sivak, M. (EPA)
Hyatt, B. (CPG)
Potter, W. (CPG)

EPA COMMENTS

Diamond Alkali OU4, Evaluation of the CPG Current Conditions Addendum to the QAPP – Fish and Crab Tissue Collection for Chemical Analysis, dated August 2019

No.	Section	General or Specific	Page No.	Comment
1	Introduction	Specific	1	DQO 1 lists the target species as “American eel, bass, blue crab, catfish, and white perch”. Revise this list to include forage fish (sunfish).
2	Introduction	Specific	1	DQO 1, RM 15 to Dundee Dam bullet, last sentence states that if fish and crab samples are insufficient to achieve target numbers after (25 composites over 2 years), that “DQO 1 will be considered unachievable and will not be exercised.” Delete the quoted text and replace with, “DQO 3 will be used to determine the future data analysis and collection plan.”
3	Introduction	Specific	2	Third full paragraph, second sentence, revise to say, “These COCs include 2,3,7,8- <i>substituted</i> polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (PCDDs/PCDFs) (and homologues)” italic added for emphasis.
4	Introduction	Specific	2	Fourth full paragraph, first sentence, among other typos “reminder”, should be “remainder”
5	Introduction	Specific	3	First paragraph should reference where in the document the fish aging methods are described further.
6	QAPP Worksheet 3	Specific	8	Update William Sy’s phone number to (732) 321-6648.
7	QAPP Worksheet 9	Specific	21	Last bullet on page, revise to state, “PCDDs/PCDFs and homologs, PCB congeners and homologs”
8	QAPP Worksheet 10	Specific	22	DQO 1, RM 15 to Dundee Dam bullet, last sentence states that if fish and crab samples are insufficient to achieve target numbers after (25 composites over 2 years), that “DQO 1 will be considered unachievable and will not be exercised.” Delete the quoted text and replace with, “DQO 3 will be used to determine the future data analysis and collection plan.”
9	QAPP Worksheet 10	Specific	24	Possible classes of contaminants: revise to say PCDDs/PCDFs and homologs, and PCB congeners.
10	QAPP Worksheet 11	General	-	Worksheet 11, and Appendix O, for preparing composites of catfish, bass, and sunfish, if a sufficient number of individuals is collected, the composites should each be single-species. In instances where insufficient fish are collected to make single-species composites, multiple species can be used. Explanations should be included on the field data sheets as to the rationale for each catfish/bass/sunfish composite. Revise Worksheet 11 and all locations in Appendix O that discuss composites.

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11	QAPP Worksheet 11	Specific	28	Who will use the data? Add NJDEP Division of Science and Research, as they will evaluate all reported contaminant levels relative to, and in support of, current State fish consumption advisories.
12	QAPP Worksheet 11	Specific	34	Data reporting – Although assumed to be done, the worksheet should specify recording the GPS information for each sample collection location.
13	QAPP Worksheet 11	Specific	34	Data reporting – the worksheet should mention preparation of the compositing plan memorandum (described in Attachment O) summarizing the fish collection outcome (numbers of individuals per species, and their sizes, weights, gender, and abundance per collection location and river mile, etc.) to be generated as a basis for determining the sample composite plan prior to implementing the analytical program.
14	QAPP Worksheet 11	Specific	34	Accommodations for supplying sufficient tissue samples to EPA for split sampling purposes should be described.
15	QAPP Worksheet 11	Specific	34	Data archiving? De maximis Data Management Solutions, Inc. is listed as the entity that will provide the MEDD to EPA. It is EPA's understanding that Windward Environmental LLC will be generating the MEDD. Confirm and revise as needed.
16	QAPP Worksheet 11	Specific	36	Table 11-2, RM 16 to Dundee Dam; because CPG anticipates catch rates to be low in the upper reach of the river, the number of trap sets in this reach should be at least doubled in order to collect the desired target numbers
17	QAPP Worksheet 11	Specific	36	Table 11-2; the table should be revised to include the types of traps (e.g., commercial eel trap, L"xH"xW"), trotlines (e.g., length and hook numbers), gillnets and seine nets (L'xH' and mesh sizes). Additionally, during discussions between EPA and CPG, hook-and-line fishing was discussed as an option, and it should be included in the table. It is appropriate for such ambush predators as bass that may be difficult to collect using other methods.
18	QAPP Worksheet 12	General	-	For the worksheets related to PCB congeners and dioxin, the QC sample descriptions need to be consistent with the laboratory SOPs. There was no explanation for some QC sample descriptors such as batch control spike, spiked solvent blank and the laboratory SOPs did not use the same terminology. Revise the worksheet to reconcile.

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19	QAPP Worksheet 12	General	-	For consistency, use the SOP numbering reference as provided in Worksheet #23. For the PAH analysis, reference was made to SOP 47 for both Pre-Extraction internal standards and LCS and should be revised. In addition, verify the reference to Table 1 of the SOP for the LCS QC acceptance criteria. Table 1 of the SOP provides the quantitation limits, not the LCS acceptance criteria.
20	QAPP Worksheet 12 PCDDs/PCDFs	Specific	38	Batch control spike (LCS) recovery limits do not match those listed on Table 6 in SOP T3. Confirm and revise as needed throughout.
21	QAPP Worksheet 12 PCB Congeners	Specific	39	Batch control spike (LCS) recovery limits do not match those listed on Table 5 in SOP T2. Confirm and revise as needed throughout.
22	QAPP Worksheet 12 PCB Congeners	Specific	39	Extraction Surrogate recovery range is shown on worksheet as a range from 15% to 150%. This does not match the range listed on Table 6 in SOP T2 (25%-150%). Confirm and revise as needed throughout.
23	QAPP Worksheet 12 Total Mercury	Specific	43	CRM recovery shown on worksheet is 75% - 125%, it does not match Table 3 of SOP T-14 for the blank spike if no SRM is run. If an SRM is provided the MPC should reference the SRM certification sheet. Confirm and revise as needed throughout.
24	QAPP Worksheet 12 Metals (ICP/MS)	Specific	45	LCS recovery listed in SOP T-10 Table 6 does not contain recovery limits for tissue. Confirm the recovery limits the laboratory can achieve and revise as needed throughout.
25	QAPP Worksheet 12 Organochlorine Pesticides	Specific	46	LCS recovery limits do not match those listed on Table 5 in SOP T7. Confirm and revise as needed throughout.

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26	QAPP Worksheet 12 Organochlorine Pesticides	Specific	46	Extraction Surrogate recovery range is shown on worksheet as a range from 50% to 150%. This does not match the range listed on Table 5 in SOP T-7. Confirm and revise as needed throughout.
27	QAPP Worksheet 12 PAHs	Specific	47	Internal standard recovery limits from SOP T-4 Section 14.4 is listed as 50% - 150%. It does not appear to be compound specific as indicated on the worksheet. Confirm and revise as needed throughout.
28	QAPP Worksheet 14	Specific	49	Analysis Tasks, second sentence, along with weight/length, include gross external exam for abnormalities (e.g., lesions, neoplasms, missing/deformed fins/legs, parasites)
29	QAPP Worksheet 14	Specific	49	Analysis Tasks, third sentence, clarify when fin rays/spines/scales and otoliths will be removed. Will otoliths be removed in the field, or in the analytical laboratory during the filleting process?
30	QAPP Worksheet 15 PCBs by Congener	Specific	Starting page 55	PCB Congener limits could not be confirmed in SOP T-2. Confirm and revised as needed throughout.
31	QAPP Worksheet 15 Metals (ICP/MS)	Specific	66	The achievable laboratory limits on the worksheet could not be confirmed. SOP T-10 Table 2 does not contain limits for tissue samples. A detection limit of 0.020mg/kg is given for soil/solid. Confirm and revise as needed throughout.

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32	QAPP Worksheet 17	Specific	71-74	<p>Sampling design and rationale; hook-and-line fishing should be included in the discussion as an optional method.</p> <p>Include descriptions of gillnets (length and height, mesh sizes, mesh material, etc.), eel/minnow traps and crab traps (commercial or recreational, size, material, etc.). Include the types of bait will be used for each species. Include the lengths of trotlines and number of hooks. Include the description of seines (length and height, mesh size, mesh material, etc).</p> <p>Because the traps will be baited, and fish/crabs will be allowed to eat the bait, samples of the bait should be submitted for COPEC analyses. Attachment J Fish Collection SOP states that all bait will be in bait bags to prevent collected biota from consuming the bait. Bait bags and perforated containers still allow bits of bait to escape, particularly when they are bitten and shaken by eels, and crabs typically only eat small particles.</p>
33	QAPP Worksheet 18	Specific	76	Fishing Method column; clarify what “oriented on the river bottom” means. Is it oriented so the openings on the traps are oriented upstream and downstream? Does it mean that trotlines will be oriented parallel with stream flow?
34	QAPP Worksheet 21	General	-	The worksheet lists two (2) SOPs that were revised. However, there are other applicable sampling SOPs that were referenced to this worksheet. It is not clear to the user where to locate the other SOPs. All applicable project sampling SOPs should be listed with the worksheet.
35	QAPP Worksheet 22	General	-	The worksheet lists two (2) SOPs that were revised. However, there are other applicable sampling SOPs that were referenced to this worksheet. It is not clear to the user where to locate the other SOPs. Recommend that all applicable project sampling SOPs be listed with the worksheet.
36	QAPP Worksheet 28	General	-	For the worksheets related to PCB congeners and dioxin, the QC sample descriptions need to be consistent with the laboratory SOPs. There was no explanation for some QC sample descriptors such as batch control spike, spiked solvent blank and the laboratory SOPs did not use the same terminology. Revise to reconcile.
37	QAPP Worksheet 28	General	-	For consistency, use the SOP numbering reference as provided in Worksheet #23. For the PAH analysis, reference was made to SOP 47 for both Pre-Extraction internal standards and LCS and should be revised. In addition, verify the reference to Table 1 of the SOP for the LCS QC acceptance criteria. Table 1 of the SOP provides the quantitation limits, not the LCS acceptance criteria.

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38	QAPP Worksheet 30	General	-	For the organochlorine pesticides, SOP T4 was referenced in addition to T7. SOP T4 is listed as the SOP for PAH preparation and analysis. Clarify whether the method (SOP T7) also utilizes part of SOP T4.
39	QAPP Worksheet 30	General	-	For fish age determination, SOPs T30 and T31 indicated on this worksheet were not listed in the attachment listing the analytical SOPs. In addition, it was not clear why the fish aging laboratory was shown as “to be determined” In the organizational chart and distribution list, Normandeau Associates, Inc. was listed as the Age Analysis Laboratory. Revise to clarify.
40	QAPP Worksheet 36	General	-	QAPP Worksheet 28 should also be used as part of the validation criteria.
41	QAPP Worksheet 36	General	-	Note that the referenced validation SOP for metals is now separated into SOP 2a and SOP 2b for validating data generated using ICP-AES and ICP-MS. These can be found at https://www.epa.gov/quality/region-2-quality-assurance-guidance-and-standard-operating-procedures .
42	QAPP Worksheet 36	General	-	Instead of levels, use the terminology provided in the EPA document <i>Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use</i> (EPA 540-R-08-005) to describe the validation stages that will be performed. This document can be found at the following webpage: https://www.epa.gov/clp/superfund-clp-analytical-services-guidance-documents .
43	Fish/Crab Collection SOP	Specific	3	Bullet A, first paragraph states that because fish/crab baits will be placed in bait bags, no bait samples will be analyzed for COPECs. Bait bags and perforated containers still allow bits of bait to escape, particularly when they are bitten and shaken by eels, and crabs typically only eat small particles. Bait should be analyzed for COPECs.

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44	Fish/Crab Collection SOP	Specific	3	<p>Bullet A, second paragraph gives an inadequate description of the eel/minnow trap. Recreational minnow traps (widely available cylindrical traps) are not well designed for collecting laterally compressed fish with a large dorso-ventral profile (e.g., sunfish) unless the openings are modified. Recreational minnow traps are also not well designed for collecting eels, even when the optional extension section is utilized. Cylindrical traps tend to roll around in the current and with the tide. Commercial eel traps are superior for eel collection and retention.</p> <p>During a call with EPA, CPG mentioned that the fish collection contractor was purchasing commercial eel traps. Add the traps and an adequate description to the SOP.</p>
45	Fish/Crab Collection SOP	Specific	3	<p>Bullet A, second paragraph says that if eel/minnow traps can't be deployed during the day, they will be deployed in late afternoon and retrieved the next day. That statement implies that collection will be done during the day. Because eels are nocturnal, eel traps should always be allowed to soak overnight for maximum efficiency. Additionally, the biota collection QAPP states that traps and trotlines will be left to soak overnight. Revise the SOP to clarify that traps will soak overnight.</p>
46	Fish/Crab Collection SOP	Specific	5	<p>Bullet 7 at the top of the page states, "Hooks will be left in during field collection and noted for the laboratory where samples will be prepared." Because bullet 5 above this says that fish will be unhooked, bullet 7 is unclear. Revise the bullet to clarify.</p>
47	Fish/Crab Collection SOP	Specific	7	<p>Section 7, first paragraph, second sentence states that damaged or compromised will not be retained. Revise the section to include disposal of damaged/dead target and non-target fish.</p>
48	Fish/Crab Collection SOP	Specific	8	<p>Section 8, bullet 8, revise to state that the proper location for collecting scales for aging is different for different species, and that aging scales will only be collected from the proper species-specific location.</p>
49	Fish/Crab Processing SOP	General	-	<p>Worksheet 11, and Appendix O, for preparing composites of catfish, bass, and sunfish, if a sufficient number of individuals is collected, the composites should each be single-species. In instances where insufficient fish are collected to make single-species composites, multiple species can be used. Explanations should be included on the field data sheets as to the rationale for each catfish/bass/sunfish composite. Revise Worksheet 11 and all locations in Appendix O that discuss composites.</p>
50	Fish/Crab Processing SOP	General	-	<p>Accommodations for supplying sufficient tissue samples to EPA for split sampling purposes should be described.</p>

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51	Fish/Crab Processing SOP	Specific	5	First two paragraphs and three bullets, the sample numbering description is not an exact match for the sample numbering description in the QAPP Worksheet 27. Revise the worksheet and/or the SOP to specify the correct numbering scheme.
52	Laboratory Certification	General	NA	The laboratory certifications referenced on the table need to be provided for review.